FIG.2A

```
LOCUS       HSU22027     7215 bp      DNA          PRI       22-OCT-1995
DEFINITION  Human cytochrome P450  (CYP2A6V2)  gene, complete cds.
ACCESSION   U22027
NID         g1008461
KEYWORDS    .
SOURCE      human.
  ORGANISM  Homo sapiens
            Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;
            Vertebrata; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 7215)
  AUTHORS   Fernandez-Salguero,P., Hoffman,S.M., Cholerton,S.,Mohrenweiser,H.,
            Raunio,H., Rautio,A., Pelkonen,O., Huang, J.D., Evans, W.E.,
            Idle, J.R. et,al.
  TITLE     A genetic polymorphism in coumarin 7-hydrozylation: sequence of the
            human CYP2A genes and identification of variant CYP2A6 alleles
  JOURNAL   Am. J. Hum. Genet. 57 (3), 651-660 (1995)
  MEDLINE   95397851
REFERENCE   2 (bases 1 to 7215)
  AUTHORS   Fernandez-Salguero,P.
  TITLE     Direct Submission
  JOURNAL   Submitted (01-MAR-1995)  Pedro Fernandez-Salguero,  National
            Institutes of Health, 9000 Rockville Pike, Bethesda, MD 20894, USA
FEATURES              Location/Qualifiers
  source              1..7215
                      /organism="Homo sapiens"
```

FIG.2A CONT.

5'UTR	782..790
CDS	join (791..970, 1237..1399, 2115..2264, 2499..2659, 3207..3383, 4257..4398,4873..5060,5577..5718, 6308..6489)
	/gene=CYP2A6V2:
	/codon_start=1
	/product=cytochrome P450"
	/db_xref-PID:g1008462"
	/translation=MLASGMLLVALLACLTVMVLMSVWQQRKSKGKLPPGPTPLPFIG NYLQLNTEQMYNSLMKISERYGPVFTIHLGPRRVVVLCGHDAVREALVDQAEEFSGRG EQATFDWVFKGYGVVFSNGERAKQLLRFAIATLRDFGVGKRGIEERIQEESGFLIEAI RSTHGANIDPTFFLSRTVSNVISSIVFGDRFDYKDKEFLSLLRMMLGIFQFTSTSTGQ LYEMFSSVMKHLPGPQQQAFQLLQGLEDFIAKKVEHNQRTLDPNSPRDFIDSFLIRMQ EEEKNPNTEFYLKNLMMSTLNLFIAGTETVSTTLGYGFLLLMKHPEVEAKVHEEIDRV IGKNRQPKFEDRAKMPYMEAVIHEIQRFGDVIPMSLARRVKKDTKFRDFFLPKGIEVF PMLGSVLRDLRFFSNPRDFNPQHFLGEKGQFKKRDAFVPFSIRKRNCFGEGLARMELF LFFTTVMQNFRLKSSQSPKDIDVSPKHVGFATIPRNYTMSFLPR
exon	791..970
	/gene=CYP2A6V2:
	/number=1
exon	1237..1399
	/gene=CYP2A6V2:
	/number=2
exon	2115..2264

FIG.2A CONT.

```
                    /gene=CYP2A6V2:
                    /number=3
     exon           2499..2659
                    /gene=CYP2A6V2:
                    /number=4
     exon           3207..3383
                    /gene=CYP2A6V2:
                    /number=5
     exon           4256..4398
                    /gene=CYP2A6V2:
                    /number=6
     exon           4873..5060
                    /gene=CYP2A6V2:
                    /number=7
     exon           5577..5718
                    /gene=CYP2A6V2:
                    /number=8
     exon            6308..6489
                    /gene=CYP2A6V2:
                    /number=9
     3'UTR          6490..6744
BASE COUNT      1646 a    2196 c    1746 g    1627 t
ORIGIN
```

FIG.2A CONT.

BASE COUNT

```
   1 aagttcccct gaaatatggc tctggtcttc ctccccttgc caatgaagaa gatggcagtg
  61 gaggttctat ggcagccatc ctggcctcac tctgaggttc caatgaggat tctgggcatc
 121 aagagacagc tctgggcaaa gctaaatcaa gtcagcccct ggacccagtg ctgggctgct
 181 gggctttctg ggagaacgcc gctgggcttg ctacacactc ctcctcccag aaactccaca
 241 cccacagccc tgggtcttcc tagccccgag actttcaagt ccatatgcct ggaatccccc
 301 ttcctgagac ccttaaccct gcatcctcca caacagaaga cccctaaatg cacagccaca
 361 ctttgtctta ccctaataaa acccagacct ttggattcct ctcccctgga acccccagat
 421 ccgcacaact ttggggtgca ttctcactct cagaccccaa atccaaagcc caagtgctcc
 481 cctatgcaaa tattccaaac tcctcagttc tacagcttat ctgttgcccc ctcctaaatc
 541 cacagccctg cggcacccct cctgaagtac cacagattta gtctggaggc cccctctctg
 601 ttcagctgcc ctggggtccc cttatcctcc cttgctggct gtgtcccaag ctaggcagga
 661 ttcatggtgg ggcatgtagt tgggaggtga aatgaggtaa ttatgtaatc agccaaagtc
 721 catccctctt tttcaggcag tataaaggca aaccacccca gccgtcacca tctatcatcc
 781 ctctaccacc atgctggcct cagggatgct tctggtggcc ttgctggcct gcctgactgt
 841 gatggtcttg atgtctgttt ggcagcagag gaagagcaag gggaagctgc ctccgggacc
 901 caccccattg cccttcattg gaaactacct gcagctgaac acagagcaga tgtacaactc
 961 cctcatgaag gtgtcccaag acagggagat gggtgtctcg gggtgggggc tgcctagttg
1021 gctggggctt tgtggcaggg ggttgaccag tgtggaccag agtcttagga aatggagttt
1081 tggagtttca gcatcagaaa gacaggatct tgggatgtcc agctccctga ctgtgagaac
1141 ctgggtgcga agcatcccag cacatgacat ctcggtgctg ggccccattc agagtggagg
1201 gttctccctc taaccactcc cacccacctc catcagatca gtgagcgcta tggccccgtg
1261 ttcaccattc acttggggcc ccggcgggtc gtggtgctgt gtggacatga tgccgtcagg
```

FIG.2A CONT.

```
1321 gaggctctgg tggaccaggc tgaggagttc agcgggcgag gcgagcaagc caccttcgac
1381 tgggtcttca aaggctatgg tgcccaagag ggggaaggtg ggcaggtgga cacgaaggtc
1441 tcagtgttcc cagccttctc cctgactctc ctgacaactg gaggataagg gagagtcccc
1501 agtctggtct tccctcccca tctccctaca ttggggcctc tccatgtgta tccctcacct
1561 gtctccagcg gccctgtcct gattcctccc tgcctctctc tgccccacct ccttattctc
1621 tctcactgga gtctcctctt tcccctctct tcccctctct ctccatctct tgggtttctg
1681 tttaccagcc ctgggtctct gtctacatga gtctttgagg ccctcttagc ttctgggctt
1741 ctctgggttt ctcatctctc cggatccctt tctcaattct tcctctgtct taggatgcca
1801 gggttattcc tacttccaca tcttcaggct ccatctcctg gtaacagtct ctcttccttc
1861 cagaccctct ctgtttctat ctcaatatta aactctctgc tccagctcag cttaagaatc
1921 tcacaccaag agaggatgtc ctccacccag atctccccat atctcactac cccaccctcc
1981 atcctctgcc tccatcactc tctttctctc cccactgccc tgcggacgcg atccaatgga
2041 gtgtggagct aatgccgtga agctatgtgc atctctctgt ctggccgtac ctgggtaata
2101 acctgatcga ctaggcgtgg tattcagcaa cggggagcgc gccaagcagc tcctgcgctt
2161 tgccatcgcc accctgaggg acttcggggt gggcaagcga ggcatcgagg agcgcatcca
2221 ggaggagtcg ggcttcctca tcgaggccat ccggagcacg cacggtgagc aggggacccc
2281 gagtgcgggg gcaggagaag gaaaacaccc aggacgagga acccgcgcgc gttctgcctg
2341 gggatgggga ctaggtgggg aaaggcgccc gcacttccag ccctggagtc tggcgctggg
2401 aatttggctc aacaaggccc tgcctcctgg aattctgact ctcctcagac ctctgagttg
2461 actctctccc caacccccct ctcccgacat acccggaggc gccaatatcg atcccacctt
2521 cttcctgagc cgcacagtct ccaatgtcat cagctccatt gtctttgggg accgctttga
2581 ctataaggac aaagagttcc tgtcactgtt gcgcatgatg ctaggaatct tccagttcac
2641 gtcaacctcc acggggcagg taatggttgc agcccggccc gtgaaggccc ttaccaaaac
```

FIG.2A CONT.

```
2701 cggcaaattg ttcccctacc gggggaaggg ggccccaaat tcccaccgcc ccccggacag
2761 tgtcccctca aaatcagtcc ccgatttggg caaattggca gagtggaacc agacccgggt
2821 tggttgtcca atcccctgct ctccagggac accgggatag cacaacagat gctccccaaa
2881 acagagcctg ctggcaggat gcataccctc agctcagctc tctcaccctg ggcacgtgtt
2941 cccatcccca acttaccggt aatttctaac agatgctccc tacccaggtc ttcttgaata
3001 ttttaacacc cggaaaccct gggtacctaa ccttcctgt  aaactttaga gattagttcc
3061 tatccggccc ctctgaaata cctaaccacc ggagaccaga tgcctttaac tcagttcctt
3121 ccttgctatg aaacaaatcc cattcccatc agctcctgcc ccgtgacagc tgtccttccc
3181 ttcccatcct ctctctgcaa ccccagctct atgagatgtt ctcttcggtg atgaaacacc
3241 tgccaggacc gcagcaacag gcctttcagt tgctgcaagg gctggaggac ttcatagcca
3301 agaaggtgga gcacaaccag cgcacgctgg atcccaattc cccacgggac ttcattgact
3361 cctttctcat ccgcatgcag gaggtacacc ccagcagcca ctgcggggag atgcaaagcc
3241 aggcagaggg aaatcagtct gggagtgggg caggcagatg acacaggccc attcaaatta
3481 accctcatca taataatcct cacaattggc tgggtgccgt ggctaacagc ctgtaatccc
3541 agcactttgg gaggccgagg caggtggatc acctgaggtc aggagttcga gaccagcctg
3601 gccaacatgg tcaaaccccg tctctactaa aaatccaaaa attagttggg catggtggcg
3661 cgaaggggggg cagaggttgc aatgagccaa gatcacggca ttgcactcca gtctgggtga
3721 cagaatgagg ccctgtgtca aaaaaaatta atcacttgtt taaaaagtaa gtgagcctgc
3781 atggtcatgc gcatgtgcag ctccagctac tcaggaggct gaggctggag gattgcttga
3841 gctcaggagt tggcgtccgg cctgtgcaac ttagcaagac caagtcagta taagaaaaaa
3901 aaaaaacaaa aaaaaagctg acagctaagt tgataattga cggacagatg gtcagcaagg
3961 taacgaaggt gagaaggaag agcattgggg gcaacgccag gagtcagggc aagggctggt
```

FIG.2A CONT.

```
4021 tcctagagcg agtctggtag gatctagggc ccctcttctc caccctgcgg tcttgcccca
4081 aagagaggtc gagggtgctg ggattgcgct agactcgagt ctgtgtagat cttggggtcc
4141 cctcttgacc cccattggtc tgaacctaag agtggaagat ccatggggtg aacccctaga
4201 tggtgccctg aggtcaagca ggagtgaggt tgtcctaaag ccccctctcc cttcaggagg
4261 agaagaaccc caacacggag ttctacttga agaacctgat gatgagcacg ttgaacctct
4321 tcattgcagg caccgagacg gtcagcacca ccctgcacta tggcttctta ctgctcatga
4381 agcacccaga ggtggagggt aaggctggag ggggacggaa gtggagggcc ccagaccctc
4441 aaaattcccc ttcgactggt gcaatgtccc cacctgtccc agatcccggg accctgagac
4501 gtgacttgct gtccagagac agggcaacat tcagctggta ggcatcagct gagtctcatt
4561 agatattaaa atattgaaaa tgtctgcact gattggtcag tcacttctgt cccaagccca
4621 ctgagtgccc actgcccgtt ccaccgggtc atcccctaag ttcctccctg tgcctccct
4681 gtgattctgg cacaacctgg ttaacaggat cctactccaa caatgcgaat gggtgatgtc
4741 tgttctgtta tgaatgctct acttccgtct cataggcgga ggcatttcat ccacccatt
4801 ttgcctatcc ggactatcat ttcctgctct gagaccccta gatacctaaa cacattcccc
4861 ctcctccccc agccaaggtc catgaggaga ttgacagagt gatcggcaag aaccggcagc
4921 ccaagtttga ggaccgggcc aagatgccct acatggaggc agtgatccac gagatccaaa
4981 gatttggaga cgtgatcccc atgagtttgg cccgcagagt caaaaaggac accaagtttc
5041 gggatttctt cctccctaag gtgctatccg cccccacccc ccagactacg gggactccag
5101 cccctctctg tgtccccagc atcccaccca cattagaagc tttctagacc ctgtcccact
5161 ccctcaatca gtcaaaaaag acttccccaa ccaccacatc cgttccacct ttccacttag
5221 acactcctga gtcctgcatc tctccagact ctttgtgtca ggagaatcaa acacatgttc
5281 ccaaacttcc tatcttaaga aacagaagcc ccctttccat tcggcctttt gtcataggga
5341 cagaaatctc aggtccccca aactcctgcc tagaaggaca tggaccccat gtctcccaaa
```

FIG.2A CONT.

```
5401 cttcctgttt cagagatgtg aaccttctat cccccaaggt cctccctcag aggtccccaa
5461 ttcccatgcc tgccacttcc cctcaccggg gcaccctagt tccccctcca gcccctgtgt
5521 actctcaaca atcccccaac ccgcctcatc acatacacct tcctcctccc tcccagggca
5581 tagaagtgtt ccctatgttg ggctccgtgc tgagagacct caggttcttc tccaaccccc
5641 gggacttcaa tccccagcac ttcctgggtg agaaggggca gtttaagaag cgtgatgctt
5701 ttgtgccctt ctccatcagt aagagaccac tgtttggtgc caggcttact actcacacca
5761 gcaggggcct cccttaccca gttcccctct ctgccgtgta gcctagtatt tccccagctt
5821 ggcaagttcc tgttagcaat ctaccgtcga gccaccaggt gatactccct taactaccaa
5881 gcacccagta cctgtgccca ggcaaaagga aaggaaacat catacccctt tcagaggcgg
5941 gggaaaacca aaggccagag agaatcagag atttatttcc ctagggtcac acaggagatt
6001 cttcagcatc cctaaaaagg agatgacggc acagcaggtc atatttggga gttcttatct
6061 gggggaaggg ggatcttaaa cctcccattg tggacacctg gcatcgatca accccatctt
6121 ttggtcatct tttgggtcac tcaaggaaac tgaggtcaag gagggtcaag aggctccctc
6181 ttaaagtctc tcagggccat atattccacc cttcctccct gggagagccg cagctggagg
6241 tcggtactgg ggcgaggctg cactgagagt gggcttcacc tccacccctc ccgcctctcc
6301 tcctcaggaa agcggaactg tttcggagaa ggcctggcca gaatggagct ctttctcttc
6361 ttcaccaccg tcatgcagaa cttccgcctc aagtcctccc agtcacctaa ggacattgac
6421 gtgtccccca aacacgtggg ctttgccacg atcccacgaa actacaccat gagcttcctg
6481 ccccgctgag cgagggctgt gccggtgaag gtctggtggg cggggccagg gaaagggcag
6541 ggccaagacc gggcttggga gaggggcgca gctaagactg ggggcaggat ggcggaaagg
6601 aaggggcgtg gtggctagag ggaagagaag aaacagaagc ggctcagttc accttgataa
6661 ggtgcttccg agctgggatg agaggaagga aacccttaca ttatgctatg aagagtagta
```

FIG.2B

```
LOCUS       HSP452B6     1415  bp   RNA          PRI          29-MAY-1992
DEFINITION  Human MRNA FOR CYTOCHROME P-450IIVB6.
ACCESSION   X13494
NID         g35206
KEYWORDS    Cytochrome; cytochrome P450IIB6.
SOURCE      human.
  ORGANISM  Homo sapiens
            Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;
            Vertebrata; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 1415)
  AUTHORS   Miles, J.S.
TITLE       Direct Submission
  JOURNAL   Submitted (10-NOV-1988) Miles J.S., Imperial Cancer Research Fund,
            Lab of Molecular Phrmacology and Drug Metabolism, Hugh Robson
            Building, George Square, Edinburgh, EH8 9XD
REFERENCE   2 (bases 1 to 1415)
  AUTHORS   Miles, J.S., McLaren, A.Q. and Wolf, C.R.
  TITLE     Alternative splicing in the human cytochrome P450IIB6 gene
            generates a high level of aberrant messages
  JOURNAL   Nucleic Acids Res. 17 (20), 8241-8255 (1989)
  MEDLINE   90045947
COMMENT     The sequence is a compilation of genomic and cDNA clones. **map:
            chromosomal location=19q12-13.2;
            Data kindly reviewed (13-NOV-1989) by Miles, J.S.
FEATURES              Location/Qualifiers
```

FIG.2B CONT.

```
     source          1..1415
                     /organism="Homo  sapiens"
      misc-feature   9..110
                     /note=exon  1,  partial"
      misc-feature   111..273
                     /note=exon  2"
       misc-feature  274..423
                     /note=exon  3"
       misc-feature  424..584
                     /note=exon  4"
      misc-feature   585..761
                     /note=exon  5"
      misc-feature   762..903
                     /note=exon  6"
      misc-feature   904..1091
                     /note=exon  7"
      misc-feature   1092..1233
                     /note=exon  8"
       misc-feature  1234..1415
                     /note=exon  9",  coding  region"
BASE COUNT       341 a     430 c      328 g     316 t
ORIGIN
        1 gaattccgcc ctgcacccat gaccgcctcc caccagggcc ccgccctctg  ccccttttgg
```